

What have we have learned from TLRP?

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Abstract: *Mary James and Andrew Pollard present the findings of the TLRP, the UK's largest programme of educational research. They argue that a debate on the aims of education is important and that current testing and assessments as indicators of learning and teaching progress ignore the fact that students should be prepared for life beyond the examination hall. The programme has identified ten key principles which should be employed to ensure effective teaching and learning, which James and Pollard discuss in detail in the article.*

In his evidence to the Children, Schools and Families Select Committee on 17 December 2007, Dr Ken Boston, the Chief Executive of the Qualifications and Curriculum Authority in England, expressed optimism about the future. He said:

"There seems to be a willingness across Government, the teaching profession and the broader public to engage in genuine discussion about the future of testing and assessment and to come out of the trenches to some extent. There seems also to be a real recognition of the importance of three things – personalised learning, formative assessment, and professional development for teachers – which are the essential keys to raising performance standards..." (House of Commons; Children, Schools and Families Committee, 2008)

Ken Boston's choice of personalised learning, formative assessment and professional development may be indicative of an important shift in the attention of policymakers – from an obsession with school structures and organisation to an interest in the processes and relationships that

characterise teaching and learning activity. If this represents a genuine shift in public debate, it is to be welcomed. In a Teaching and Learning Research Programme (TLRP) Commentary written in response to the Schools White Paper (now the Education and Inspections Act 2006), we wrote,

“No amount of organisational reform, such as the creation of different categories of schools or within-school setting and streaming, will obviate the need for serious and sustained attention to the nature and quality of relationships and teaching and learning processes. A key, we believe, is support for imaginative new forms of professional development for all those who work in schools, based on evidence-informed educational principles.” (2006)

Since 2002 we have been involved in co-ordinating the largest programme of educational research on teaching and learning that the UK has ever seen. Involving around 700 plus researchers in some 90 project and thematic investments spread over about ten years, the Economic and Social Research Council’s Teaching and Learning Research Programme (TLRP) has investigated ways to improve outcomes for learners at all ages and stages in all sectors and contexts of education and training. Research on teaching and learning processes and the implications for teachers’ professional learning have been at the heart of this.

Twenty TLRP projects, and two ‘associate’ projects funded directly by the then DfES, have focused particularly on work in schools. Early in 2008 all of these will have completed their investigations and be reporting their results. Many finished earlier and, by early 2006, the TLRP Directors’ Team was beginning to look across the projects to see if there were any general insights emerging about effective pedagogy. This posed two prior questions: What does ‘effectiveness’ mean? What does ‘pedagogy’ mean?

Effectiveness

We resisted the idea that effectiveness should be reduced solely to measures of the extent to which performance targets have been met. Existing tests and examination results are important indicators of attainment in relation to aspects of the school curriculum. And they can be useful predictors of future outcomes. But TLRP has taken the view that teaching and learning should aspire to prepare students for life beyond the examination hall. In looking across the work of projects, we detected a range of educational aims being pursued. Attainments as measured by national tests and qualifications were by no means ignored but there was interest in other ‘outcomes’, such as engagement, participation, learning how to learn, thinking skills and the development of learning identities. This range offered possibilities for a mutually productive synergy among

educational aims linked to economic productivity, to the promotion of social cohesion and inclusion, and to personal development, fulfilment and expression. In a developed society all of these are important.

In the last 20 years this fundamental discussion about educational aims has been somewhat lost in the headlong rush to meet targets defined by tests, with the unfortunate consequence that the tests have often come to define the aims. Valuable progress has been made on many of the issues that the Education Reform Act 1988, and subsequent legislation, was designed to address, and this needs to be recognised. However, as progress, as measured by tests on a limited curriculum, seems to have stalled, it is now an appropriate time to open up the debate again. Few professionals will want to turn back the clock but there is now a distinct need to move on to broader horizons whilst continuing to work on those existing concerns that need further attention.

Pedagogy

So, what has 'pedagogy' to do with this? In recent years the word has been shunned, either because it is regarded as jargon or because, literally speaking, it only refers to the learning of children and not adults. However, this is changing and politicians as well as education professionals are becoming more comfortable with the term applied to learning and teaching at all ages. This is important because what 'pedagogy' does is recognise the fundamental interactions between teaching and learning in formal settings. They are not separate processes but are contingent upon each other: learning follows teaching, and teaching follows learning. In 1981, Brian Simon explained what he saw effective pedagogy to mean:

"To develop effective pedagogy means starting from what children have in common as members of the human species; to establish the general principles of teaching and, in the light of these, to determine what modifications of practice are necessary to meet specific individual needs." (Simon, 1981)

At a time when so much is claimed for the power of 'personalised learning', Simon's starting point with what learners share in common is crucial, lest we come to believe that everyone is so different that we cannot make any general assumptions about effective practice. But more than this, the concept of 'pedagogy' recognises that there are some basic and fundamental understandings (or principles) about learning and teaching that can be 'known', and that this knowledge base can provide teachers with practical ideas that they can apply, test, adapt and develop according to the demands of the contexts in which they work. In so doing, teachers create new knowledge of 'principles in practice' and potentially contribute to the practical knowledge base themselves. This demands that teachers

reflect in, and on, action, and critique and share their understandings. It offers them opportunities for an enhanced professionalism that can be far more rewarding, for all concerned, than simply ‘delivering’ under-theorised prescribed practices.

Ten principles

The position of TLRP is that a great deal is known about effective pedagogy, both in the UK and internationally, but the synthesis, communication, implementation and embedding of such knowledge is far weaker than it should be. This was one of the reasons why, in attempting to draw together some of the key findings of schools’ projects, we chose to present them in the form of ten principles for effective teaching and learning. We published them first in a Commentary then refined them in a Guide for teachers (2007). Using these vehicles we invited practitioners and policymakers to consider how a limited number of key principles, derived from well-founded research evidence and scholarship, might engage professionals and support them in making contextualised judgements, whilst, at the same time, progressively generating understanding and a language for use in a renewed public debate about the why, what and how of future education policy.

The first of TLRP’s 10 principles relates to the educational values and purposes discussed above:

“Learning should aim to help people to develop the intellectual, personal and social resources that will enable them to participate as active citizens and workers and to flourish as individuals in a diverse and changing society. This implies a broad view of learning outcomes and that equity and social justice are taken seriously.”

Although this was drawn from evidence of the range of purposes pursued explicitly or implicitly by TLRP projects, it also drew on theoretical deliberations carried out by across-programme thematic groups: for example, work conducted in association with the Philosophy of Education Society of Great Britain. (Bridges, 2008)

The other nine principles cluster under three headings:

1. Curriculum, pedagogy and assessment;
2. Personal and social processes; and
3. Teachers and policies.

Curriculum, pedagogy and assessment

Principle 2 drew particularly on projects with a close focus on learning within specific school subjects. (Nunes, Byrant, and Hurry, 2004; Millar, Leach, Osborne, and Ratcliffe, 2003; Howe, Nunes, Byrant, 2005) These demonstrated that carefully designed teaching sequences, incorporating

diagnostic questioning, based on the best evidence of how pupils learn certain concepts or skills, can enhance performance. However, these projects also raised fundamental questions about what it is that children should be learning, i.e. about the nature of the curriculum. TLRP concluded from this that:

“Teaching and learning should engage with the big ideas, facts, processes, language and narratives of subjects so that learners understand what constitutes quality and standards in particular disciplines.”

Principles 3 and 4 are strongly linked and have theoretical and empirical underpinnings, derived from Piaget, Vygotsky, Bruner and others:

“Teaching should take account of what learners already know in order to plan their next steps. This means building on prior learning as well as taking account of the personal and cultural experiences of different groups.

“Teachers should provide activities which support learners as they move forward, not just intellectually, but also socially and emotionally, so that once these supports are removed, the learning is secure.”

The importance of taking account of prior learning, in cognitive terms, has been shown to be important in teaching subjects such as mathematics and science where early misconceptions create serious barriers to new learning and need to be tackled. TLRP projects in these subjects made this a particular focus, although the insight applies to all school subjects to some extent and in different ways. But there are possibilities as well as challenges associated with the influence of prior learning. A number of TLRP projects, especially those working with young children and/or investigating computer use (Hughes, Pollard, Claxton, Johnson and Winter, 2004), found benefits in teachers making more deliberate and positive use of the informal knowledge and understanding that children and young people acquire in their homes and local communities.

TLRP research projects on the use of computers and other ICTs in classrooms (Plowman and Stephen, 2006; Sutherland, Robertson, and John, 2004; Bevan, 2006; Kennewell, Thomas, Thorpe, Beauchamp, Tanner, Jones and Norman, 2007) helped to clarify the nature of teaching and learning as purposeful ‘tool mediated activity’. In other words, encounters between teachers and learners involve the use of tools such as textbooks, computers and other materials, and signs and symbols such as language and grading systems. Thus the relationship is triangular with interactions involving teacher, learner and tools. Such tools, including language tools, are crucial in scaffolding learning but need to be chosen and used appropriately. As

the saying ‘rubbish in; rubbish out’ implies, tools such as interactive whiteboards are not intrinsically valuable. Their worth depends on how they are used. As TLRP projects found, the usefulness of new technologies was associated with the ways in which they were incorporated into the flow of learning activity and classroom dialogue.

Ken Boston’s comments, quoted above, were made during a House of Commons inquiry into assessment and testing, two decades after the introduction of the national assessment system in England. The system is now creaking at the seams. In a sense it has become obese and, as Ken Boston noted, is expected to serve at least 14 different assessment purposes. The importance he attached to formative assessment indicates the recognised value of assessment to support and improve learning – not just to measure it. This resonates with TLRP’s fifth Principle:

“Assessment should help to advance learning as well as to determine whether learning has taken place. It should be designed and carried out so that it measures learning outcomes in a dependable way and also provides feedback for future learning.”

In this regard, TLRP projects (Kennewell, 2006) and a thematic seminar series (Daugherty, Black, Ecclestone, James and Newton, 2007) identified validity problems with conventional, short, externally marked tests which tend to focus on factual recall and therefore narrow the scope of the performance being assessed. For example, tests in science often overestimate students’ understanding of key concepts because such things can rarely be measured by a single question. Complex learning outcomes almost always require observation over time and across different contexts. This is an argument for considering ways of enhancing the role of teachers in assessment, albeit with due regard to their professional development needs if their judgements are to instil confidence.

Personal and social processes

TLRP Principles 6, 7 and 8 shift the focus from external conditions, contexts and systems to the nature of learning itself. They recognise that learning has both personal and social aspects and involves the development of knowledge, dispositions, and practices – it has cognitive, affective and behavioural dimensions:

“A chief goal of teaching should be the promotion of learners’ independence and autonomy. This involves acquiring a repertoire of learning strategies and practices, developing a positive attitude towards learning, and confidence in oneself as a good learner.

“Learning is a social activity. Learners should be encouraged to work with

others, to share ideas and to build knowledge together. Consulting learners and giving them a voice is both an expectation and a right.

"Informal learning, such as learning out of school, should be recognised as being at least as significant as formal learning and should be valued and used appropriately in formal education."

Learning understood in this way holds many challenges for teachers. For example, one TLRP project (James, McCormick and Marshall, 2005) found that, whilst teachers want to promote learning autonomy in their pupils, they find it difficult because of constraints. Those who were most successful were those who took responsibility for what happened in their classrooms – they were not inclined to blame pupils or the Government for what went wrong – and they adopted an enquiry approach to their own learning, individually and in collaboration with others.

Similarly, projects focusing on the promotion of group work (Christie, Topping, Livingstone and Howe, 2004; Blatchford, Glaton, and Kutnick,

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2004) showed benefits in terms of significant academic gains, which were seen across schools in different social contexts. However, this required teachers to make deliberate efforts to improve the

quality of group work and children's mastery of cooperation and collaboration.

A TLRP project on pupil consultation also found evidence of enhanced self esteem, agency and improved learning opportunities. However, some pupils had more 'communications competence' or were 'heard' more than others, which indicates that teachers need to be especially alert to social class, language and gender differences.

Likewise, at least two TLRP projects (Hughes, Pollard, Claxton, Johnson and Winter, 2004; Sutherland, Robertson and John, 2004) found that young people draw on school experience, and develop it at home, and bring home experience into school, and that such knowledge exchange can impact positively on outcomes. But, again, this impact is mediated by social class, gender and other factors so needs to be handled with sensitivity to avoid negative consequences.

All of these findings about learning have profound consequences for teachers and teaching and the policies of agencies that support and regulate the work of schools.

Teachers and policies

The remaining two TLRP Principles, 9 and 10, are concerned with the implications of the others for teachers' own learning and for policy frameworks:

"The importance of teachers learning continuously in order to develop their knowledge and skill, and adapt and develop their roles, especially through classroom inquiry, should be recognised and supported.

"Policies at national, local and institutional levels need to recognise the fundamental importance of teaching and learning. They should be designed to make sure everyone has access to learning environments in which they can thrive."

Teachers' professional development

Without exception, all TLRP projects had a great deal to say about teachers' professional development because, even with access to new programmes and technologies, improvements in pupils' learning and achievement depend on teachers' learning. Teachers need opportunities to develop their own knowledge, beliefs and values, alongside their practices. A strong message from the evidence is that simply being told what to do, mindlessly, will not secure sustained change. It might serve in the short term for short term gains, but practices become ritualised and ineffective if they are not underpinned by the beliefs and understanding that will enable teachers to adapt practices, or create new ones, as contexts change.

Targeted professional development and teaching materials, developed from research evidence 'translated' into practical advice, are valued. But TLRP evidence also suggests that a crucial strategy is for schools to support and make space for teachers' critical enquiry into practice in classrooms. Ideally this should involve teachers working with colleagues. These may be from within their own school or department, although visits from teachers in other schools can be invaluable for questioning assumptions. This is challenging, of course, and teachers' levels of commitment and resilience are important. Schools with traditions of distributed leadership, staff participation, cultures of inquiry and professional networks support such change best. TLRP projects observed that when senior management supports innovation it becomes sustainable. However, head teachers also revealed their concerns about leading learning in their schools within the context of prescriptive Government policy. There was sometimes a perception that progress was being made despite Government policy rather than because of it.

All of these principles have implications for the future of the teaching profession and particularly the way teachers construe their roles and the kind of professional development needed to support change. Few people would deny a role for teachers in imparting knowledge, explaining ideas,

and coaching skills, but if effective pedagogy is also about finding out where pupils are in their learning, diagnosing strengths and weaknesses based on best evidence of commonalities, differences and trajectories in learning, scaffolding new learning, modelling and encouraging learning dispositions, fostering dialogue, collaboration and peer and self-evaluation, and so on, then the programme for professional development is potentially very large. It certainly cannot be encompassed in initial teacher education, but requires a coherent spiral curriculum from initial teaching education, through induction and CPD to leadership training. Opportunities for Masters Degree level courses may be a start in this direction but the content as well as the structures needs to be thought through.

Professional development at all levels also needs to be rebalanced so that training in techniques is put alongside the development of beliefs about learning, derived both from empirical evidence and more

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philosophical and ethical deliberation. Doing 'what works' is only as valuable as what it works for! Such critical enquiry needs to take

place in the school, as well as outside of it, so that the key focus can be pedagogic practice in classrooms. But, in so far as it is difficult for individual teachers to stand apart from their familiar practice, opportunities for collaboration are crucial – to challenge assumptions, to co-construct explanations and solutions, to create new knowledge of effective practice in particular circumstances.

But this has major implications for school leadership and policy too. If teachers are to learn together in these ways it will take time and money. Leaders will need to (re)define their own roles as leaders of learning and view one of their main tasks as supporting the professional development of all their staff. One important activity will be to find out about (audit) the expertise within the school, and support the networking both within the school and across schools that will enable this expertise to be shared and further developed. TLRP evidence (James, McCormick and Marshall, 2005) suggests that this does not have to be too costly. It may need only a little bit of money to give teachers time to visit, meet, hear, observe, discuss, create or share, but this would reap benefits in terms of teachers' commitment, skills and ideas, and pupils' experience and outcomes.

TLRP welcomes the renewed focus of educational debate on the key processes of teaching and learning, whilst recognising that innovations in pedagogy have implications beyond the classroom especially for teachers' professionalism, school leadership and policy frameworks. Guided by our principal aim to work 'to improve outcomes for learners of all ages', TLRP

schools' projects have investigated the learning of teachers and organisations as well as the learning of pupils. As Brian Simon stressed, learning in many contexts has commonalities; the learning of teachers shares much with the learning of their students. All require a sense of purpose, a developed capacity for reflection and strategic thinking informed by evidence, motivation and a sense of their own agency to bring about improvements in outcomes. No one denies the need for intelligent accountability but the time has come for teachers to reject passivity in the face of constraints and to accept their responsibility, ability and power to make a crucial difference.

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